Integrating Critical IT System Development Life Cycle Activities

Building More Secure Systems Through Effective Acquisition and Security Certification Processes

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Security Assurance in IT Systems

Building more secure systems requires --

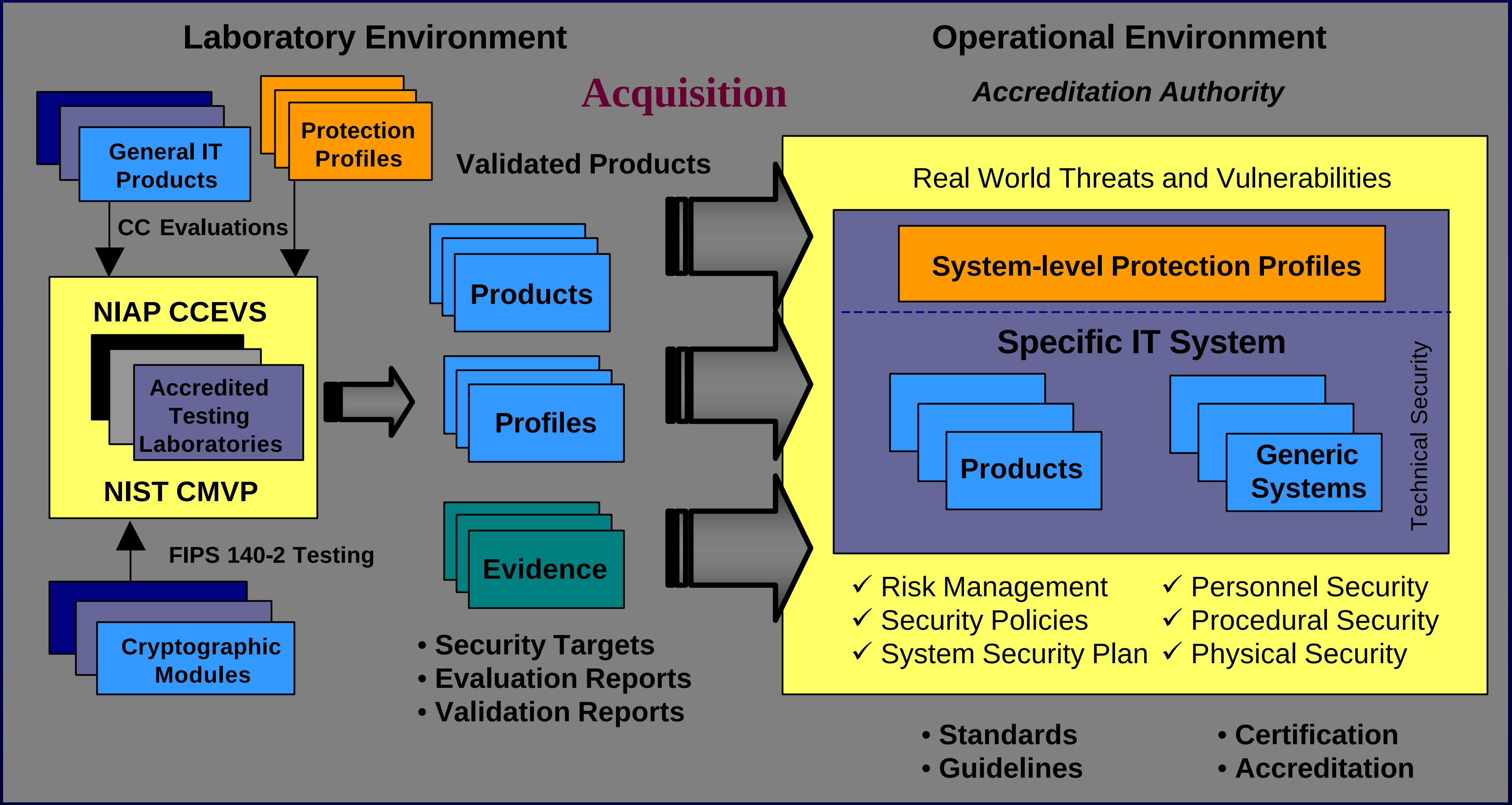
- Well defined system-level security requirements and security specifications
- Well designed component products
- Sound systems security engineering practices
- Competent systems security engineers
- Appropriate metrics for product/system testing, evaluation, and assessment
- Comprehensive system security planning and life cycle management

System Development Life Cycle

- Initiation Phase
- Development and Acquisition Phase
- Implementation Phase
- Operations and Maintenance Phase
- Disposal Phase

A Comprehensive Approach

Linking Critical Assessment Activities



Security Certification

"A comprehensive analysis of the technical and non-technical aspects of an IT system in its operational environment to determine compliance to stated enterprise security objectives and requirements…"

- ✓ Achieved through the application of a set of structured activities during and in conjunction with the system life cycle
- ✓ Used to verify the IT system design and to validate a specific implementation for the purpose of identifying risks to unauthorized disclosure, modification, and denial of service of information and resources

System Accreditation

"An official management decision by a designated authority to operate an IT system based on the results of a certification process and other relevant considerations…"

- ✓ Balances mission requirements and the residual risks to the enterprise information system or network after the employment of appropriate protection measures
- ✓ Assigns responsibility for the safe and secure operation of the information system or network to a designated authority

Program Objectives

Phase I

- To develop standardized guidelines for conducting security certifications and accreditations of federal IT systems
- ***Phase II***
- To create a national network of accredited organizations capable of providing cost effective, quality security assessment services based on the standardized guidelines

PHASE I

Development of Guidance

- Develop NIST Special Publication 800-37, ***Federal Guidelines for the Security Certification and Accreditation of Information Technology Systems***
- Develop NIST Special Publication 800-37A, *Minimum* ***Security Controls for Information Technology Systems***
- Complete first public drafts by October 2002

SPECIAL PUBLICATION 800-37

Design Goals

- Standardized security certification process for all federal systems
- Flexible and configurable certification tasks targeted to enterprise assurance requirements
- Three levels of security certification for IT systems addressing low, medium, and high risk enterprise environments
- Use national and international IT security standards, whenever possible

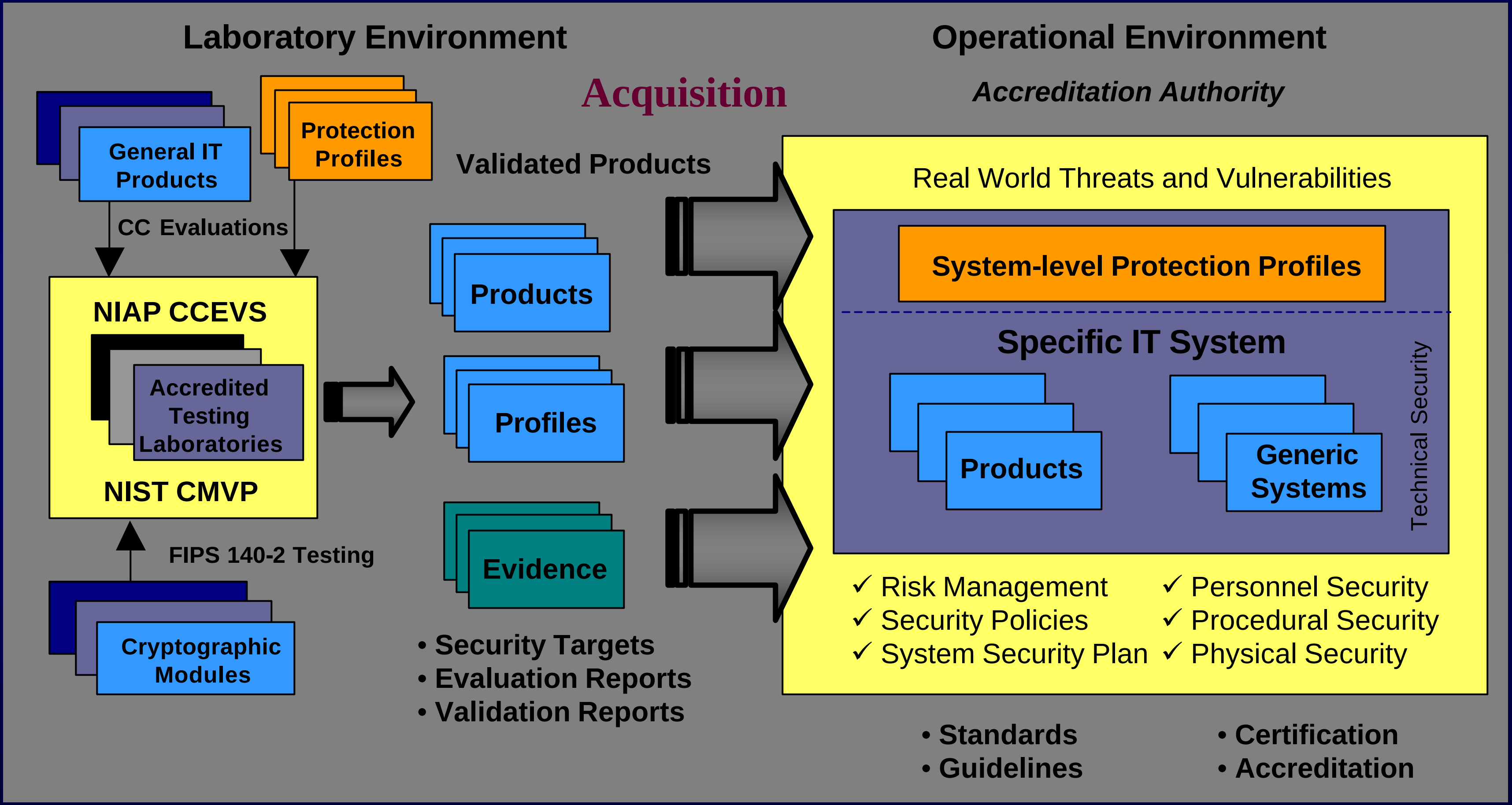
SPECIAL PUBLICATION 800-37A

Design Goals

- Standardized security controls (i.e., management, operational, and technical) for federal IT systems
- Standard package of security controls representing a baseline of security for federal systems in the areas of confidentiality, integrity, and availability
- Optional packages of security controls for increased levels of concern for confidentiality, integrity, and availability

A Comprehensive Approach

Linking Critical Assessment Activities



- Security Targets
- Evaluation Reports
- Validation Reports

- Standards
- Guidelines

- Certification
- Accreditation